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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,005	06/14/2001	Michio Horiuchi	149-01	5592

7590

02/05/2004

Paul & Paul  
2900 Two Thousand Market Street  
Philadelphia, PA 19103

EXAMINER
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OWENS, DOUGLAS W

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 02/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# **Interview Summary**

Application No.

09/881,005

Applicant(s)

HORIUCHI ET AL.

Examiner

Douglas W Owens

Art Unit

2811

All participants (applicant, applicant's representative, PTO personnel):

(1) Douglas W Owens.

(3) \_\_\_\_\_.

(2) Derek Jessen.

(4) \_\_\_\_\_.

Date of Interview: 30 January 2004.

Type: a) ☒ Telephonic b) ☐ Video Conference

c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.

If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1 and 11.

Identification of prior art discussed: US patent No. 6,335,565 to Miyamoto et al.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

  
Examiner's Signature, if required

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant's representative discussed differences between the art of record and the invention. Applicant's position is Miyamoto et al. discloses a stack of chips, but not a package with the complex circuit structure of the invention. Applicant was advised that the proposed amendment will be fully considered when filed. A complete review of the cited art, as well as another search, will have to be completed before a determination of patentability can be made. The proposed amendment is attached.

## Summary of Record of Interview Requirement

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

#### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

##### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

#### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Atty. Dkt. No. 149-01

Ser. No. 09/881,005

DRAFT AMENDMENT FOR DISCUSSION PURPOSES

Claims pending after draft amendment 1, 2, 4, 5, and 11-16.

Claims 6-10, 17 and 18 are withdrawn.

Claims 1 and 11 would be amended.

Claim 3 would be canceled since the features thereof would be incorporated into claim 1 after the amendment is entered.

Claim 1 (Presently Amended) A multi-layered semiconductor device characterized in that a film-like semiconductor package incorporating therein a semiconductor chip is disposed in a package accommodation opening of a circuit pattern layer to form a circuit board, said circuit pattern layer comprises a substrate, a circuit pattern formed on the substrate, and said package accommodation opening, and a plurality of such circuit boards are layered together to electrically connect said circuit patterns of the respective circuit boards with each other, wherein the electrical connection between the circuit patterns on the respective circuit boards is performed via a low melting point metal filled in a through hole formed in the semiconductor package or the circuit board.

Claims 2-10 remain as originally filed.

Claim 11 (Presently Amended) A multi-layered semiconductor device formed of a plurality of circuit boards layered together, each circuit board comprising an insulation substrate, a semiconductor chip incorporated in the substrate, a circuit formed on the surface of the substrate and connected to the semiconductor chip, characterized in that a

lead extending from the circuit board is bonded, ~~in a through hole provided in the insulation substrate of the circuit board,~~ to a circuit on another circuit board disposed beneath the former circuit board to establish an interlayer connection, said lead extending through a through-hole in the insulation substrate of the former circuit board.

Claims 12-18 remain as originally filed.

Remarks:

Claims 1, 2, 4, 5, 11-13, 15 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,335,565 to Miyamoto et al. Applicants submit the following remarks with respect to the patentability of the two independent claims being examined: claim 1 and claim 11 from which all other pending claims depend.

Applicants submit that the cited Fig. 34 of Miyamoto does not teach (among other features)

1) a semiconductor package accommodated in the package opening incorporating therein a semiconductor chip as shown in Figs. 2(a), 2(c), 2(e) and 2(f); and

2) a circuit pattern layer having a package accommodation opening 11c, as shown in Figs. 2(b), 2(d) and 2(g). As can be seen in Fig. 2(b), the circuit pattern layer as recited in the claims comprises a substrate 11 and a circuit pattern 13 formed on the substrate 11.

It is respectfully submitted that the Miyamoto reference is merely directed to a stack of layers each having a chip wherein the leads of the chip. Miyamoto simply does not have the claimed feature of a semiconductor package incorporating a semiconductor chip disposed in a circuit pattern layer comprising a substrate and a circuit pattern formed on the substrate.

Further, Miyamoto does not have a package accommodation opening which can accommodate a semiconductor package or even a semiconductor chip wherein the electrical connection is at a through hole in the semiconductor package or the circuit board.

With respect to claim 11, a typical embodiment of which is shown in Fig. 5. This feature is described on page 11, lines 28-30 as extension 13b and extends into an upper region of through-hole 11d in Fig. 5 from one circuit board to another circuit board below the first circuit board. These features of a lead extending through a through hole in such a manner is not taught in Miyamoto.